

disclose, for example, “obtaining registration information from a plurality of forwarding engines.” As another example, the cited portion of Pitcher et al. fails to disclose “identifying the plurality of forwarding engines based on the registration information.” As yet another example, the cited portion of Pitcher et al. fails to disclose “generating at least one specific forwarding table for at least one corresponding forwarding engine of the plurality of forwarding engines.”

Moreover, Applicant submits that the cited portion of Pitcher et al. fails to disclose “forwarding the at least one specific forwarding table to the at least one corresponding forwarding engine.” Within the cited portion of Pitcher et al., the only reference Applicant can find involving any sort of forwarding is in col. 9, lines 59-60, where Pitcher et al. state, “...the multicast packet is forwarded onto the appropriate group multicast destination list....” The multicast packet mentioned by Pitcher et al. does not constitute “the at least one specific forwarding table” as recited in claim 1. For example, the specification, on page 2, lines 4-6, states, “The forwarding engines forward packets from one network segment to another based on forwarding information contained in the forwarding tables.” Thus, the mere forwarding of packets is clearly different and distinguishable from “forwarding the at least one specific forwarding table....” Moreover, Pitcher et al. state, in col. 9, lines 59-60, that “the multicast packet is forwarded onto the appropriate group multicast destination list.” Thus, Applicant can find no evidence that Pitcher et al. discloses “forwarding...to the at least one corresponding forwarding engine.” Thus, Applicant submits that claim 1 is in condition for allowance. Since claims 2, 4, and 5 depend from claim 1, Applicant submits that claims 2, 4, and 5 are also in condition for allowance.

Regarding claim 2, Applicant submits that Pitcher et al. also fails to disclose “generating, as the at least one specific forwarding table, one forwarding table for the plurality of forwarding engines.” Thus, Applicant submits that claim 2 is in condition for allowance.

Regarding claim 4, Applicant submits that Pitcher et al. also fails to disclose “generating, as the at least one specific forwarding table, a corresponding forwarding table for each grouping of the plurality of forwarding engines.” Thus, Applicant submits that claim 4 is in condition for allowance.

Regarding claim 5, Applicant submits that Pitcher et al. also fails to disclose “authenticating each of the plurality of forwarding engines prior to the identifying.” Thus, Applicant submits that claim 5 is in condition for allowance.

Regarding claim 3, the Examiner states that Pitcher teaches a forwarding table is maintained per VLAN which includes a group list per group (col. 7, lines 35-38). Applicant respectfully

disagrees. Applicant submits that the cited portion of Pitcher et al. fails to disclose the claimed invention as set forth in claim 3. Applicant can find no teaching in the cited portion of Pitcher et al. of any relationship between Pitcher et al.'s VLAN, group list, or group that could be construed to teach the subject matter expressed in claim 3. For example, Pitcher et al. describe a VLAN as being a virtual local area network, but Applicant can find no teaching in the cited portion of Pitcher et al. of any relationship between Pitcher et al.'s VLAN and a forwarding engine. Thus, Applicant submits that claim 3 is in condition for allowance.

Regarding claims 6 and 7, the Examiner states that Pitcher further teaches the group lists are maintained dynamically upon receipt of membership reports and the information is added as necessary to the list (col. 7, lines 56-64). Applicant respectfully disagrees. Applicant submits that the cited portion of Pitcher et al. fails to disclose the claimed invention as set forth in claim 6 or 7. Applicant can find no teaching in the cited portion of Pitcher et al. of any relationship between Pitcher et al.'s group lists or membership reports that could be construed to teach the subject matter expressed in claim 6 or 7. For example, while Pitcher et al. refers elsewhere to a "forwarding table," Applicant can find no teaching in the cited portion of Pitcher et al. of any relationship between Pitcher et al.'s membership reports and any forwarding table that could be construed to teach the subject matter of claim 6. Thus, Applicant submits that claims 6 and 7 are in condition for allowance.

Regarding claims 15 and 16, the Examiner states that Pitcher teaches of a forwarding table being used to determine the forwarding of packets and in response to information provided by a multicast group effort of identifying the list of group members (figure 6) the second requirement possibility for claim 16 is taught above by Pitcher for groups being identified by forwarding tables. Applicant respectfully disagrees. Applicant submits that Pitcher et al. fails to disclose the claimed invention as set forth in claim 15 or 16. For example, Applicant submits that Pitcher et al. fails to disclose the steps of "providing registration information" and "receiving at least one forwarding table in response to the registration information." While the Examiner states that Pitcher et al. teaches "...in response to information provided by a multicast group effort of identifying the list of group members...", it is not clear to Applicant where such teaching allegedly exists in Pitcher et al. Thus, Applicant submits that claim 15 is in condition for allowance. Furthermore, while the Examiner states that "...the second requirement possibility for claim 16 is taught above by Pitcher for groups being identified by forwarding tables," Applicant submits that Pitcher et al. yield no teaching that would equate the so-called groups of Pitcher et al. with "a grouping of the plurality of forwarding engines," as

recited in claim 16. Moreover, Applicant submits that Pitcher et al. fail to teach a corresponding specific forwarding table for each of Pitcher et al.'s so-called groups, notwithstanding the fact that the so-called groups of Pitcher et al. cannot be equated with "a grouping of the plurality of forwarding engines," as recited in claim 16. Thus, Applicant submits that claim 16 is in condition for allowance.

Regarding claims 19-23, 31, and 32, the Examiner states that Pitcher further teaches of a processor having memory that carries out the invention's functionality as described above, 310 (figure 9). Applicant respectfully disagrees. As Applicant has pointed out above, Pitcher et al. fail to disclose teachings that would anticipate the claimed subject matter. Thus, Pitcher et al. cannot teach a processor having memory that carries out the claim limitations of claims 19-23, 31, or 32. Therefore, Applicant submits that claims 19-23, 31, and 32 are in condition for allowance.

The Examiner has rejected claims 8-12 under 35 U.S.C. § 102(b) as being anticipated by Callon (U.S. Patent No. 5,430,727). Applicant respectfully disagrees, as set forth in detail below.

Regarding claims 8-11, the Examiner states that Callon teaches a router is a forwarding device (col. 13, lines 35-37), an internal forwarding table is used to determine the destination address (col. 57, lines 39-44) and the same for external forwarding tables (col. 57, lines 50-55) where the routers know the other routers within the respective forwarding tables (col. 58, lines 60-65). Applicant respectfully disagrees. Applicant submits that the cited portions of Callon fail to disclose the invention as set forth in claims 8-11. For example, Applicant submits that the cited portions of Callon fail to disclose the steps of "obtaining registration information from a plurality of forwarding engines" and "identifying the plurality of forwarding engines based on the registration information." Furthermore, while the Examiner states that Callon teaches that an internal forwarding table is used to determine the destination address, Applicant submits that the teachings of the cited portion of Callon differ from those asserted by the Examiner. Rather, Callon appears to determine if the IP destination address matches any entry in the level 2 internal forwarding table for the specified or default TOS. Moreover, Callon does not appear to disclose the claim limitations of claims 8-11. As another example, Applicant can find no evidence that Callon discloses the step of "forwarding the at least one specific internal forwarding table and the at least one external forwarding table to the at least one corresponding forwarding engine." Thus, Applicant submits that claims 8-11 are in condition for allowance.

Moreover, regarding claim 9, Applicant submits that Callon fails to disclose the step of “generating, as the at least one external forwarding table, a single external forwarding table for the plurality of forwarding engines.” Thus, Applicant submits that claim 9 is in condition for allowance.

Also, regarding claim 10, Applicant submits that Callon fails to disclose the step of “generating, as the at least one external forwarding table, a corresponding external forwarding table for each grouping of the plurality of forwarding engines.” Thus, Applicant submits that claim 10 is in condition for allowance.

Furthermore, regarding claim 11, Applicant submits that Callon fails to disclose the step of “generating, as the at least one specific internal forwarding table, at least one of: a single internal forwarding table for the plurality of forwarding engines, a corresponding internal forwarding table for each of the plurality of forwarding engines, and a corresponding internal forwarding table for each grouping of the plurality of forwarding engines.” Thus, Applicant submits that claim 11 is in condition for allowance.

Regarding claim 12, the Examiner states that Callon teaches of updating tables by level-2 routers which are taught as external type routers above (col. 45, lines 12-15), also the need for a full update in a system with internal and external forwarding tables must be done periodically (col. 52, lines 5-8). Applicant respectfully disagrees. Applicant submits that col. 45, lines 12-15, of Callon do not clearly teach what the Examiner asserts. For example, Callon appears to offer no explanation for the apparently contradictory terms of “fixed” and “manually updated.” Also, the meaning of Callon’s sentence is not clear as it lacks a closing parenthesis. Even if Callon were to teach what the Examiner asserts, Applicant submits that the Examiner’s assertions do not yield anticipation of claim 12. For example, Callon provides no clear evidence that his mention of “tables” in the cited portion would anticipate “at least one of the at least one specific internal forwarding table and the at least one external forwarding table.” Nor is there clear evidence that would show anticipation of the limitation “based on configuration changes of a network.” Thus, Applicant submits that claim 12 is in condition for allowance.

The Examiner has rejected claims 17, 18, 24-28, 33, and 34 under 35 U.S.C. § 103(a) as being unpatentable over Pitcher (U.S. Patent No. 6,370,142) in view of Callon (U.S. Patent No. 5,430,727). Applicant respectfully disagrees, as set forth in detail below.

Regarding claim 17, the Examiner states that Pitcher teaches all of the components of the claimed invention except an internal and external forwarding table acknowledged to be a part of a at least one forwarding table. The Examiner further states that Callon as mentioned above describes an internal and external forwarding table both being used in part of a main forwarding database to encompass both the internal and external network routers as possible paths for forwarding data (col. 58, lines 17-21). The Examiner concludes that it would have been obvious to one skilled in the art at the time the invention was made to have included both an internal and external forwarding table in reference to a single forwarding table to provide the routers with the necessary option to communicate with both internal and external routers in order to find the best and most efficient route to use in a networking environment.

Applicant respectfully disagrees. Applicant submits that neither Pitcher et al. nor Callon, either alone or in combination, render obvious the claimed invention as set forth in claim 17. As noted above, Applicant submits that Pitcher et al. fail to anticipate claim 15, from which claim 17 depends. Thus, even if combined with the teachings of Callon, Pitcher et al. would still fail to render obvious the claimed invention as set forth in claim 17. Moreover, while the Examiner asserts a motivation to combine the cited references “to provide the routers with the necessary option to communicate with both internal and external routers in order to find the best and most efficient route to use in a networking environment,” Applicant disputes the validity of the Examiner’s assertion in that neither of the cited references appear to provide that supposedly “necessary option” by themselves, which presupposes that each of the cited references is lacking what is alleged to be “necessary.” Thus, Applicant submits that there is no suggestion in the prior art to combine the cited references so as to allegedly suggest the claimed invention as set forth in claim 17. Therefore, Applicant submits that claim 17 is in condition for allowance.

Regarding claim 18, the Examiner states that Pitcher fails to teach of updating any type of table based on network devices. The Examiner also states that Callon teaches of a updating the table in order to provide the most updated information for efficient routing (col. 45, lines 10-16). The Examiner concludes that it would have been obvious to have included an updating scheme to the forwarding tables for more updated information.

Applicant respectfully disagrees. Applicant submits that neither Pitcher et al. nor Callon, either alone or in combination, render obvious the claimed invention as set forth in claim 18. As noted above, Applicant submits that Pitcher et al. fail to anticipate claim 15, from which claim 18 depends.

Thus, even if combined with the teachings of Callon, Pitcher et al. would still fail to render obvious the claimed invention as set forth in claim 18. Moreover, Applicant has also noted above the deficiencies found in col. 45, lines 10-16, of Callon. Thus, Applicant submits that neither of the alleged teachings of Pitcher et al. nor Callon can be relied upon in an attempt to render obvious the claimed invention as set forth in claim 18, and, in fact, if such an attempt were to be made, the result would not yield the claimed invention as set forth in claim 18. Thus, Applicant submits that claim 18 is in condition for allowance.

Regarding claims 24-28, 33, and 34, the Examiner states that Pitcher teaches the use of a processing module with memory to do all of the necessary functions as described above except:

□ For claim 33, incorporate the use of internal and external forwarding tables into the distributed network. The Examiner further states that Callon teaches an internal and external forwarding table both being used in part of a main forwarding database to encompass both the internal and external network routers as possible paths for forwarding data and to be used, and a router is a forwarding device (col. 13, lines 35-37). Applicant respectfully disagrees. Applicant submits that the Examiner has not offered evidence to support the assertion that "Callon teaches an internal and external forwarding table both being used in part of a main forwarding database..." nor how such assertion, even if true, would render obvious the claimed invention as set forth in claim 33. Thus, Applicant submits that claim 33 is in condition for allowance.

□ For claim 34, updating the table in order to provide the most updated information for efficient routing (col. 45, lines 10-16). Applicant respectfully disagrees. Applicant submits that neither Pitcher et al. nor Callon, either alone or in combination, render obvious the claimed invention as set forth in claim 34. As noted above, Applicant submits that Pitcher et al. fail to anticipate claim 31, from which claim 18 depends. Thus, even if combined with the teachings of Callon, Pitcher et al. would still fail to render obvious the claimed invention as set forth in claim 34. Moreover, Applicant has also noted above the deficiencies found in col. 45, lines 10-16, of Callon. Thus, Applicant submits that neither of the alleged teachings of Pitcher et al. nor Callon can be relied upon in an attempt to render obvious the claimed invention as set forth in claim 45, and, in fact, if such an attempt were to be made, the result would not yield the claimed invention as set forth in claim 45. Thus, Applicant submits that claim 45 is in condition for allowance.

□ For claims 24-28, the Examiner states that an internal forwarding table is used to determine the destination address (col. 57, lines 39-44) and the same for external forwarding tables (col. 57, lines 50-55) where the routers know the other routers within the respective forwarding tables (col. 58, lines 60-65), and updating tables by level-2 routers which are taught as external type routers above (col. 45, lines 12-15), also the need for a full update in a system with internal and external forwarding tables must be done periodically (col. 52, lines 5-8) as a means to have both external and internal forwarding tables as part of the main database of forwarding information. The Examiner concludes that it would have been obvious to one skilled in the art at the time the invention was made to have used both the internal and external forwarding tables within the processing module's memory to provide the same type of efficiency in a network as mentioned above while having a reasonable hardware configuration of a processor and a memory unit as part of the physical networking environment. Applicant respectfully disagrees. Applicant submits that neither Pitcher et al. nor Callon, either alone or in combination, would render obvious the claimed invention as set forth in claims 24-28. As noted above, Applicant has disputed the Examiner's assertions, which the Examiner reiterates here with respect to claims 24-28. Also, Applicant has also pointed out the deficiencies found in col. 45, lines 12-15, of Callon. Furthermore, Applicant can find no explanation in col. 52, lines 5-8, of Callon as to what is to be updated or how it is to be updated. Rather, Callon merely vaguely mentions "updates," "full update," and "incremental update." Thus, Applicant submits that claims 24-28 are in condition for allowance.

The Examiner has objected to claims 13, 14, 29, and 30 as being dependent upon a rejected base claim, but states that they would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant submits that, in view of Applicant's arguments for the allowability of base claims from which the objected claims depend, claims 13, 14, 29, and 30 are now in condition for allowance.

Regarding claims 13 and 14, the Examiner states that the prior art fails to teach or render obvious the use of a second internal and external forwarding table to forward to a second corresponding forwarding engine, and the multiplexing of the second internal and external forwarding tables.

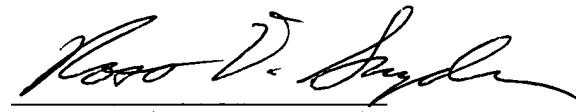
In conclusion, Applicant has overcome all of the Office's rejections, and early notice of allowance to this effect is earnestly solicited. If, for any reason, the Office is unable to allow the

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Application on the next Office Action, and believes a telephone interview would be helpful, the Examiner is respectfully requested to contact the undersigned attorney.

Respectfully submitted,

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Ross D. Snyder, Reg. No. 37,730
Attorney for Applicant(s)
Ross D. Snyder & Associates, Inc.
115 Wild Basin Road, Suite 107
Austin, Texas 78746
(512) 347-9223 (phone)
(512) 347-9224 (fax)